PROCUREMENT OF SCIENTIFIC EQUIPMENT AND MATERIALS FOR KIST

489 H 054

MONTHLY REPORT OF PROGRESS

NUMBER (5)

FOR

AUGUST 1970

PREPARED BY

KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY

FOR

REPUBLIC OF KOREA

AND

UNITED STATES

DEPARTMENT OF STATE

AGENCY FOR INTERNATIONAL DEVELOPMENT

A

PROCUREMENT OF SCIENTIFIC EQUIPMENT AND MATERIALS FOR K.I.S.T.

489-H-054

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AUGUST 1970

PREPARED BY

KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY

OVERSEAS PROCUREMENT MANAGER

YEH HWAN KOH

FOR

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DEPARTMENT OF STATE

AGENCY FOR INTERNATIONAL DEVELOPMENT

Submitted by: Moon Taik Shim

MOON TAIK SHIM
Vice-President for Research
Korea Institute of Science
and Technology

B

August 31, 1970

United States Agency for
International Development to Korea

Attention: Thomas E. Johnson
Chief, Development Loan Division

Subject: Procurement of Scientific
Equipments and Materials for KIST
AID Loan No. 489-H-054
Monthly Progress Report No. 5

Gentlemen:

We are pleased to submit the fifth monthly progress report on the procurement of scientific equipments and materials for KIST.

This report covers procurement status from June 1970 to August 31, 1970.

Very truly yours,

MOON TAIK SHIM
Vice-President for Research
Korea Institute of Science
and Technology

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MONTHLY REPORT OF PROGRESS

NUMBER 5

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I. INTRODUCTION

The Korea Institute of Science and Technology is the first institute that Korea has ever attempted to establish for research and development in order to increase the rate of development of Korean industry and the Korean economy.

Science and Technology are today related not only to the progress and development of a nation's economy but also to the welfare of human beings of the world. It is evident that the advanced countries realize the important bearing science and technology has on every facet of modern life, so, they have made a great effort in developing science and technology.

In the last several years, Korea has made great progress in economic growth and has enhanced the prestige of the country in the free world. However, science and technology in Korea are still not fully developed. Realizing the importance and urgent need for development of science and technology, President Park of the Republic of Korea discussed the establishment of an applied research institute with President Johnson during President Park's official visit to the United States in May, 1965.

As a result of the Presidents' joint communique on their meeting, the Korea Institute of Science and Technology (KIST) was founded in February, 1966 and started its primary activities in relation with its objectives. These prime objectives of KIST are to carry out scientific, technological and engineering-economics research, to conduct technical investigations and examinations, and to provide a suitable and attractive environment for Korean scientists and engineers.

1. CHRONOLOGY OF KIST'S MAJOR EVENTS

May, 1965 - In a joint communique issued by the Presidents of the Republic of Korea and the United States, the establishment of an Institute was suggested.

July, 1965 - Dr. Donald F. Hornig, President Johnson's Special Assistant for Science and Technology, and his party visited Korea and subsequently proposed to president Johnson that technical assistance be given for the establishment of the Institute.

Sept.,1965 - The United States Agency for International Development retained Battelle Memorial Institute to send a team to Korea to formulate basic plans for the establishment of the Institute.

Dec., 1965 - Battelle completed plans for the establishment of the Institute and submitted its report to AID.

Feb., 1966 - A project agreement was signed by the representatives of the Republic of Korea and the United States of America.

Feb., 1966 - Dr. Choi, Hyung Sup was named as a president of the Institute and the Board of Trustees was established.

May, 1966 - The site was chosen for the Institute's permanent location, within the former boundaries of the Korean Forestry Experimentation Station, at Hawolkokdong, Sungpuk-ku, Seoul, Korea.

June, 1966 - A technical service contract was concluded by Dr. Choi, Hyung Sup, President of the Institute, and Mr. Donald D. Evans, Representative of Battelle Memorial Institute.

Oct., 1966 - A ground breaking ceremony was held at the site of the new Institute

Dec., 1966 - Special Assistance Act passed.

Mar., 1967 - Amendment of Assistance Act for KIST was promulgated (No. 1917)

May, 1968 - The site was granted by the Government.

Oct., 1969 - A dedication ceremoney held.

2. CHARACTERISTICS

BASIC CHARACTER

The Institute is an independent, not-for-profit organization with the basic purpose of developing science and technology to support the economic and industrial development of the nation. Preservation of autonomy of reserch is considered to be of paramount importance in operating the Institute.

FINANCIAL SUPPORT

Financial support for the Institute is furnished by bothhh the governments of the Republic of Korea and the United States, under a long-term pro ram of assistance which helps assure

stability and the attainment of the Institute's objectives. It is intended, however, that the Institute will ultimately become financially self-sufficient through provision of its services to industry and government agencies on a contract basis.

ASSISTANCE ACT

In order to assure the Institute of autonomous operation and the financial support from the Government, Assistance Act for KIST was promulgated in 1967 as a special legislation, which provides the Government contribution to KIST of the endowment fund and the construction cost, as well as the lease free of charge or grant of the national properties.

TAX EXEMPTION

In accordance with the Tax Reduction and Exemption Law, individuals or juridical persons donating money to the Institute or sponsoring research project at the Institute are entitled to an exemption from income tax or juridical person tax on the amount so donated or expended.

CONTRACT RESEARCH

The Institute is to carry out research entirely for the industry and government agencies on the basis of contractual agreements. In doing this, the Institute carefully preserves all data, information and conclusions exclusively for the use of sponsors, and makes no unauthorized disclosures.

RESEARCH STUDY

For an effective research study, laboratories at the Institute are established on project basis, and research staffs are employed on a contract basis for a definite period or for a specific project.

FACILITIES AND EQUIPMENT

Laboratory facilities and equipments are provided consistent with the needs of various researc programs, and permit full utilization of the profressional capabilities of the research staff.

3. SCOPE OF RESEARCH PROGRAMS

The Institute is to carry out comprehensive laboratory investigations for applied and development research directly linked to Korean industry as well as objective-oriented basis research in the fields of sciences engineering and economics, along with technical services including economic and engineering feasibility studies, assistance in the importation and adoptation of world technology, and provision of technical information.

On the basis of the problem areas of Korean Industry, identified from the technical-economic surveys, and the availability of research staff, the initial fields of research at KIST have been selected as follows:

MATERIALS SCIENCE & METALLURGICAL ENGINEERING

Physical Metallurgy
Chemical Metallurgy
Powder Metallurgy
Metal Working
Foundry
Corrosion
Semiconductor Materials
Refractories

FOOD TECHNOLOGY

Foods in general
Marine food products
Fermented foods
New food resources
By-product utilization
Food microbiology
Process development

CHEMISTRY & CHEMICAL ENGINEERING

Catalysis & Surface Chemistry
Rubber & plastics
Coating
Pulp & Paper
Lubricant technology
Agricultural chemicals
Chemical plant design
Packaging
Paint & printing ink
Dyes
Inorganic chemicals
Organic chemicals
Cellulose derivative synthesis
Textile finishing

ELECTRONICS

Semiconductor devices
Passive components
Circuit and systems
Instrumentation & reliability
Processing techniques
Analysis of techniques

MECHANICAL ENGINEERING

Energy & power systems

Equipment design & development

Product design & development

Refrigeration & air conditioning systems

Manufacturing processes & quality control

Plant facilities design

Mechanization planning

Applied mechanics

Stress analysis

BUILDING TECHNOLOGY

Building technology

Building Materials

ECONOMICS

Applied statistics

Market research

Fesibility studies

Optimum process

Quality control

Benefit cost analysis

Regional development

Transportation

ELECTRONIC DATA PROCESSING

Scientific data processing

Operations research

TECHNICAL INFORMATION

Information analysis

Dissemination of technical information

CHEMICAL ANALYSIS

MATERIAL TESTING

FABRICATION

Research equipment design & fabrication

Demonstration fabrication machines & tools

4. RESEARCH STAFF RECRUITMENT

In order to recruit devoted research staff from home and abroad, the Institute offers appropriate environment and modern facilities for research, autonomy of research, and stability as well as reasonable salaries.

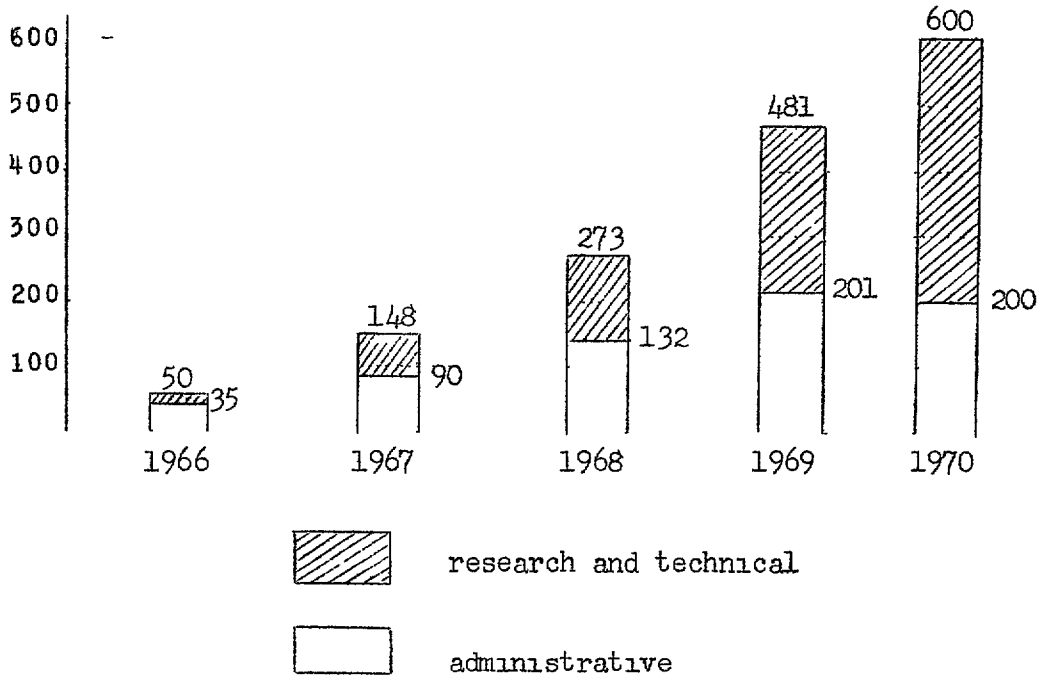
A total of 48 competent scientists and engineers joined the Institute so far. In early 1970, the Institute will have a total population of 600, including administrative and technical staffs.

RESEARCH STAFF

	Employed	Prospective*	Total	%
Home	20		20	41.7
Overseas	26	2	28	58.3
Total	46	2	48	100

Academic degree : Ph. D , 31
Master, 9
Bachelor, 8

STAFF GROWTH



To stimulate and accelerate research activities through exchange of knowledge with advanced nations, the Institute adopted various programs,

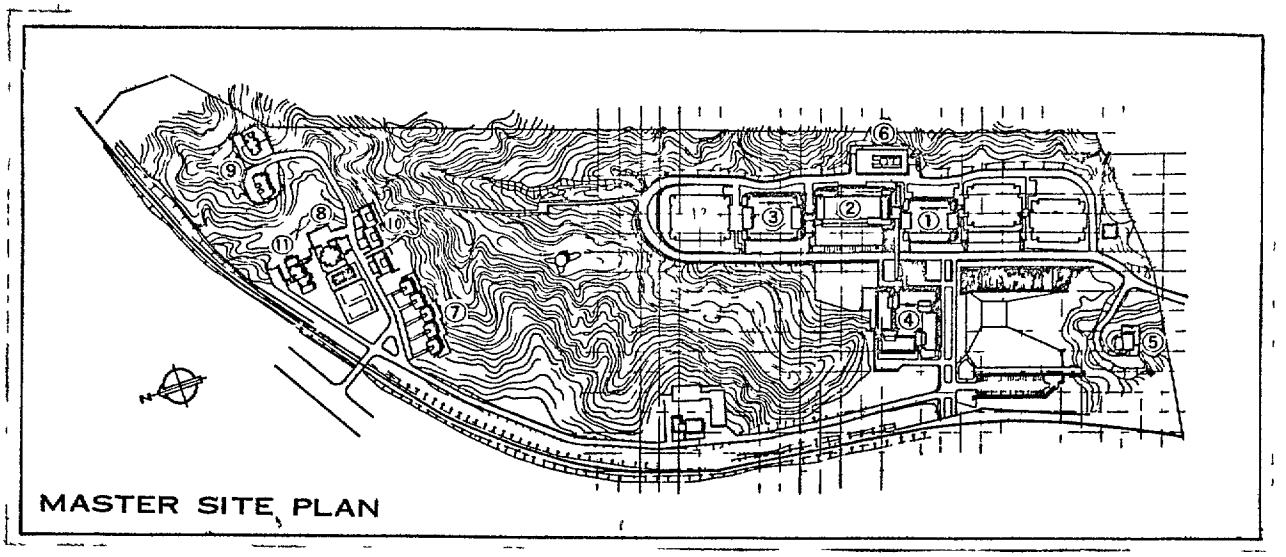
To sponsor international seminars or symposia at least once a year,

To authorize sabbatical overseas tour in every three years for principal investigators to refresh knowledge,

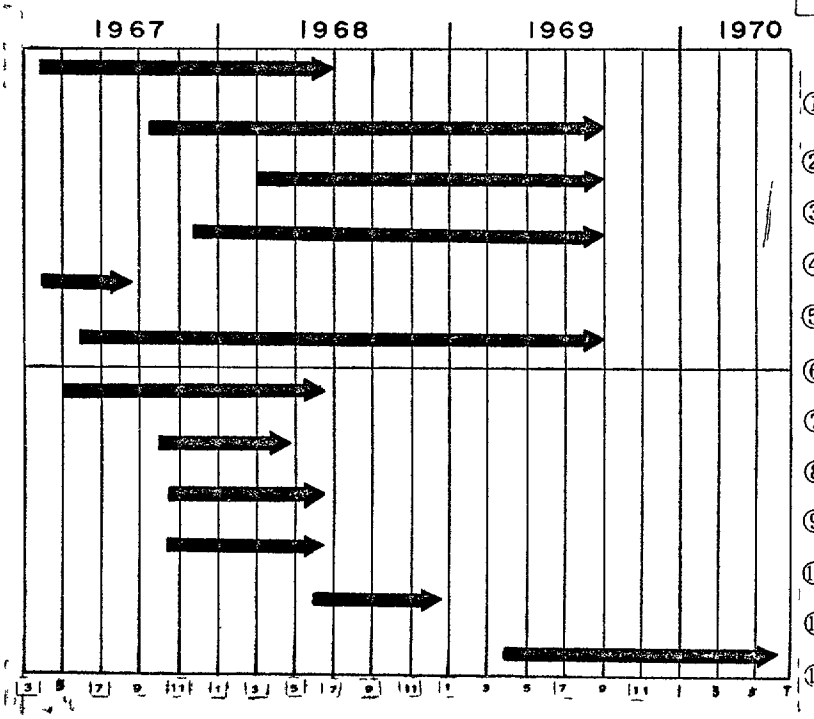
To utilize post-doctoral fellowship program to attract Korean scientists abroad.

To invite foreign scientists and engineers for short-term visit.

CONSTRUCTION



MASTER SITE PLAN



BUILDINGS	SCALE (Sq ft)	STORIES
① Research Building #1	862 000	3
② Fabrication Building	553 000	2
③ Research Building #2	634 000	3
④ Main Building	1,040,000	4
⑤ Guest House	66,000	2
⑥ Central Utilities Building	171,000	2
⑦ Apartment House (30 units)	392 000	5
⑧ Community Center	75 000	2
⑨ Individual Houses (3 units)	71 000	2
⑩ Row Houses (6 units)	125 000	2
⑪ Dormitory	139 000	3
⑫ Pilot Plant	360,000	2

II. DESCRIPTION OF THE LOAN

Preparation of the Approved List of Equipment and the Procedure For Purchase Under the Loan

In the original plan for the Institute, $3 million was allotted for the purchase of laboratory equipment. Of this, $1 million was provided under the grant and the remaining $2 million were to be provided under either a grant or a loan.

A list of equipment totaling $3 million was prepared in 1967 and 1968 by KIST with assistance from counterpart research divisions at Battelle Memorial Institute. The choice of equipment was based on eighteen projected laboratories plus the library and storeroom items. The highest priority items were purchased under the grant which reduced the list to $2 million which would be purchased under the loan. This list of equipment was agreed to by KIST, USAID/K and BMI in 1968.

When actual purchasing under the loan began in about April, 1969, it became apparent that some revisions to this list had become necessary. These revisions resulted from the need for additional laboratories as shown by increased knowledge of the research and development needs in markets in Korea. This increased knowledge also showed the need for some changes in the type of equipment needed for the research to be done. Additionally, in some cases, heads of laboratories began work at KIST and in some cases had suggestions as to equipment needed for their laboratories. The original list, of course, had been made up before many of the laboratory heade were actually at KIST.

The laboratories originally planned in 1967 and 1968 included:

1. Chemical Analysis
2. Corrosion
3. Lubricant
4. Polymer Research I
5. Solid State Chemistry
6. Solid State Physics
7. Semiconductor
8. Passive Component
9. Reliability Testing
10. Physical Metallurgy I
11. Physical Metallurgy II
12. Minerals
13. Foundry
14. Metal Working
15. Food Technology
16. Material Testing
17. Mechanical Engineering
18. Fabrication Equipment

At present the operating laboratories are as follows:

1. High Temperature Ma erials
2. Solid State Physics
3. Physical Metallurgy
4. Mechanical Metallurgy
5. Metal Working
6. Equipment Engineering
7. Thermo-hydraulic
8. Control & Instrumentation
9. Process Metallurgy
10. Shipbuilding & Ocean Engineering
11. Electronics Instrument
12. Equipment & Circuit Design
13. Semiconductor Devices
14. Passive Components
15. Agricultural Products processing
16. Animal Feedstuffs
17. Seafood Processing
18. Fishery Resources
19. Food Resources
20. Applied Microbiology
21. Polymer
22. Agricultural Chemicals Synthesis
23. Liquid State Chemistry
24. Organic Synthesis
25. Lubricant Technolgoy
26. Extractive Metallurgy
27. Plastics
28. Construction Engineering Group
29. Technical Economics Group

30. City & Regional Planning Group
31. Packaging Development Group
32. Chemical Analysis
33. Technical Information Dept.
34. Electronic Data Processing
35. Machine Shop

Because of these changes, the following procedure was agreed to by USAID/K. Requisitions would be prepared by KIST and if the items were on the $2 million list, BMI/K would certify that in their judgment the items still met the original objectives and should be purchased. These requisitions could go directly to OSROK with copies to USAID/K and BMI/K. Where new items were to be requisitioned, it was agreed the BMI/K would consider the items and recommend their purchase as exceptions to USAID/K where in their judgment, the items were needed. This justification statement generally included a description of the time, its use and why it was recommended for purchase. Upon USAID/K's approval, the requisition was sent to OSROK. In many cases, the justification by BMI/K could be made directly but in some cases, assistance was requested from BMI/C.

A somewhat simplified procedure was adopted for those new items under $1,000 in that item-by-item justification was not needed. Rather BMI/K in those cases, if it felt the purchase justifiable, made a blanket justification of the items under $1,000 as being in their judgment necessary.

After OSROK received the requisitions, they solicit and obtain bids. They then make a preliminary analysis of the bids and recommend a supplier for each item. The bids then are sent to KIST for their review and if their findings agree

with those of OSROK, purchasing can proceed. If, however, KIST disagrees with OSROK as to the chosen supplier, KIST and OSROK meet to try to resolve the problem. If agreement cannot be reached then BMI/K is called in as an arbiter.

III. THE CHRONOLOGY OF PURCHASING UNDER THE LOAN

as of August 31, 1970

1. ESTIMATED CUMULATIVE TOTAL OF REQ'S SENT TO OSROK : $1,654,710

Report	1	$1,132,160
"	2	$143,200
"	3	$344,000
"	4	$35,350
		$1,654,710

2. ESTIMATED CUMULATIVE TOTAL OF I.F.B.s ISSUED TO DATE : $1,566,780

Report	1	$981,260
"	2	$106,270
"	3	$32,500
"	4	$411,400
"	5	$35,350
		$1,566,780

Ref.)

Report No.	I.F.B. Nos. Issued
1	9022, 9047, 9122, 9198, 9038, 9093, 9148
2	9207 9264
3	9346
4	0029 0040
5	0085

3. CUMULATIVE TOTAL OF CONTRACT AMOUNT : $1,228,149.29

Report	1	$427,466.73
"	2	$286,688.32
"	3	$313,741.39
"	4	$80,845.37
"	5	$119,407.48
		$1,228,149.29

4. COMPARISON OF ESTIMATED WITH BID COSTS.

1) Cumulative Total of Estimated Costs : $1,124,288.82

2) Cumulative Total of Contract Amount : $1,228,149.29

3) Cumulative Difference : $103,860.47

4) Percentage : 8.46%

Report No.	Estimated Cost($)	Bid Cost ($)
Library Books	80,000	77,831.90
1	329,992.06	372,066.73
2	219,930.21	264,256.42
3	294,491.88	313,741.39
4	89,114 22	80,845 37
5	110,760.45	119,407.48
Total	$1,124,288.82	$1,228,149.29

5. CUMULATIVE TOTAL OF ARRIVALS : $884,330.38

IV. STATUS OF OSROK ACTIVITIES

1. INVITATION FOR BIDS ISSUED AS OF AUGUST 31, 1970

I.F.B. No.	Opening Date	Req. No.	Estimated Amount($)
AID/L-0085-P	July 28, 1970	KIST 071 thru 095 & KIST 098	$35,350.-
		KIST 030, KIST 019 ..	Rebid Items of AID/L-9346-P

2. BIDS RECEIVED AS OF AUG. 31, 1970

I.F.B. No.	Opening Date	Req. No.	Estimated Amount($)
AID/L-0085-P	July 28, 1970	KIST 071 thru 095 & KIST 098	$35,350.-
		KIST 030, KIST 019 ..	Rebid Items of AID/L-9346-P

3. BIDS UNDER TECHNICAL REVIEW

I.F.B. No.	Opening Date	Req. No.	Estimated Amount($)
1)AID/L-0040-P	May 29, 1970	KIST 064 thru 070	$336,200.-
		KIST 021, 023 ..	Rebid Items of AID/L-9207-P & 9047-P (Item 17 only)

I.F.B. No.	Opening Date	Req. No.	Estimated Amount($)
		KIST 047, 029, 052, 026, 001 .. Rebid Items of AID/L-9148-P	
		KIST 025, 045, 027, 033, 034, 005 .. Rebid Items of AID/L-9198-P (Item 1 thru 87), & AID/L-9264-P (Item 88 thru 91)	
2) AID/L-0085-P	July 28, 1970	KIST 071 thru 095 & KIST 098	$35,350.-
		KIST 030, KIST 019 .. Rebid Items of AID/L-9346-P	

4. CONTRACT STATUS

Contract Date	I.F.B. No.	Req. No.	Contract Amount($)
1. May 26, 1970	AID/L-9346-P	KIST 009 (#1 thru 6-5)	23,483.48
2. May 27, 1970	Nil(Prop. Cont.)	KIST 023 (#11 & 12)	1,941.-
3. June 25,1970	AID/L-0040-P	KIST 034 (#10-88 & 10-89)	7,282.-
4. July 3, 1970	AID/L-0029-P	KIST 061 (# 1)	76,323.-
5. July 22,1970	Nil	KIST 027	10,220.-
		Total ·	$119,249.48

Note: Contract amount of AID/L-KOS-00128-P listed on last' Monthly Progress Report (4)' has been changed from $1,743.77 to $1,901.77 due to switch of delivery way.

Grand Total: $119,407.48

5. CONTENTS OF CONTRACTS

INV.No. · AID/L-9346-P

1) KIST No. : 009

Item No	Commodity	Q'ty	Bid No	Cont No.	Cont. Amount CIF ($)	Delivery	Remarks
1 thru 6-5	Microfilm Camera and Accessories	Various	8	AID/L-KOS -00190	23,483.48	15weeks	

INV. No : Nil (P.P)

1) KIST No : 023

11 & 12	Clean Bench (Microvoid 11-0 6ft Unit with component)	1ea		AID/L-KOS -00241-NY	1,941.00	45 days	

INV No. AID/L-0040-P

1) KIST No : 034

10-88	Sweep-Delay Oscilloscope	1 ea	7	AID/L-KOS -00238-PII	3,833	10weeks	
	FET Probe P6045	1 ea	7	〃	275	〃	
10-89	Angstrometer	1 set	7	AID/L-KOS -00238-PII	3,174	10weeks	

INV. No : AID/L-0029-P

1) KIST No : 061

Item No.	Commodity	Q'ty	Bid No.	Cont. No	Cont. Amount CIF($)	Delivery	Remarks
1	Spectrometer	1	1	AID/L-KOS-00266-PII	76,323.-	7month	

INV. No : Nil (Negotiating Procurement)

1) KIST No . 027

2-2	Melting Stocks	Various	2	AID/L-KOS-00320-PII	4,190.	10weeks	
2-3							
2-4							
2-5							
2-7							
2-16							
7-1	Cobalt etc.	Various	2	AID/L-KOS-00320-PII	1,360.		
7-2							
7-5							
7-6							

Item No.	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF ($)	Delivery	Remarks
9-1 thru 9-10	Foundry Supply	Various	2	AID/L OS-00320-PII	3,520 -		
10-1	Foundry Supply	500Lb	2	AID/L-KOS-00320-PII	290 -		
11-1	Norblack	1000Lb	2	AID/L-KOS-00320-PII	860.-		

Note Contract amount of AID/L-KOS-00128-P listed on last' monthly Progress Report (4)' has been changed from $ 1,743 77 to $ 1,901.77 due to switch of delivery way.

6. COMPARISON OF ESTIMATED WITH BID COSTS

I.F.B. No.	Reg. No.	Item No.	Estimated Cost($)	Bid Cost(*)
1)AID/L-9346-P	KIST-009	1 thru 6-5	22,503.45	23,483.48
2)No1(P.P)	KIST-023	11 & 12	1,280	1,941
3)AID/L-0040-P	KIST-034	10-88 & 10-89	5,425	7,282
4)AID/L-0029-P	KIST-061	1	75,200	76,323
5)No1	KIST-027	2-2 thru 2-5, 2-7 & 2-16	4,200	4,190
		7-1, 7-2, 7-5 & 7-6	480	1,360
		9-1 thru 9-10	1,082	3,520
		10-1	140	290
		11-1	450	860
		Total :	$110,760.45	$119,249.48

Difference : $8,489.03

Percentage : 7.12%

V. PERSONEL

People concerned with procurement activities under the loan are as follows:

Organization	Title	Name
OSROK	Chief of Project Section	Kyoo Sung Lee
	Sub-Chief of Project Section	Sang Kyuck Lee
	Section Handling Man	Yong Ku Lee
KIST	Vice-President for Research	Moon Taik Shim
	Chief of Overseas Procurement Division	Yeh Hwan Koh
	Assistant	Young Soo Park
	"	Sung Nak Kim
	"	In Bok Chang
BMI/K	Advisor	R.I. Leininger
USAID/K	Chief of Development Loan Division	Thomas E Johnson
	Deputy Chief of Public Services Division	Richard L. Goodrich
D	Development Loan Officer	Robert Bell
	Deputy Supply Advisor	John McHugh